

NITROTHERMSPRAY[®]

International & USA Patent - Method and equipment

Revolutionary

NITROTHERMJET



EUROSIDER[®]



ON SITE GAS PRODUCTS[®]
DERIVAIR
AIR SEPARATION TECHNOLOGY

THE **NITROTHERMSPRAY**® SYSTEM



1. Improves quality of less skilled painters
2. Higher DOI (Distinction of image)
3. Controlled formation of orange peel
4. Elimination of mottling
5. Increases transfer efficiency
6. Eliminates wait time between 1st and 2nd coats
7. Decreases flash times
8. Reduces overspray and rebounding paint
9. Improves colour matching in solvent and water borne paints
10. Removes surface moisture
11. 50 to 100% reduction of solvents
12. 100% control of delivery
13. Reduced application time by min. 25 - 50%
14. Reduction of outlet pressure
15. Minimum 40% increase in production
16. Change of Polarity to promote attraction
17. Reduces VOC's emissions
18. Allows the return of pure oxygen back to the environment
19. Eliminates all the major uncontrollable variables in spray painting
20. Extends life of booth filters and less booth maintenance

The **NITROTHERMSPRAY SYSTEM** by **Eurosider** has revolutionized spray painting with an innovative method that offers high quality finishing and real savings in costs. Both method and machine have USA and **international patents**.

The Eurosider system replaces the traditional fluid carrier of filtered compressed air with that of a nitrogen enriched one (up to 99,5%) that is clean, dry and ionized. Nitrogen is anhydrous, inert, and because the nitrogen produced is also ionized this system eliminates all problems associated with moisture and static electricity.

The nitrogen extracted by means of selected permeation is also free from impurities such as dust, oil, oil fumes and other chemical contaminants present in the feed air. This means that the paint does not react in any way to the carrier as it passes through the spray gun or during application. The results had using both solvent and water borne have been revolutionary.

By heating the nitrogen we reduce the viscosity of the paint and the need for solvents. In recent tests solvent were reduced up to 50%. In fact with certain products, high solids for example, solvents were eliminated all together making it possible to reduce the number of coats of paint and varnish. This makes paint spraying easier and has proved to be decisive in accelerating flash off and evaporation times and in particular in reducing the overspray effect, where with the elimination of static electricity the paint goes further, lays down flatter, and there is less waste, a cleaner working environment and fewer contaminants in the atmosphere.

With Nitrothermspray each coat adheres to the surface being sprayed rapidly and without altering the properties of the paint. Sags, runs, drips and orange peel become a thing of the past.

This system can be used with all kinds of air compressors, paints, spray guns and in all temperatures. Where there is more than one spraybooth the distribution of nitrogen is made simple by using our **Top Spray** system.



NITROTHERMSPRAY

Example 1



Example 2



Example 3



NITROTHERMSPRAY • Static Elimination System

Minimum nitrogen purity 95%

Model	Air inlet pressure		Nitrogen outlet	
	bar/g	PSI	Nm ³ /h	Cuft/h
NTS J 10	6	87	6	206
	8	116	9	301
	10	145	11	399
NTS J 10 PK	6	87	8	279
	8	116	11	374
	10	145	13	466
NTS J 20	6	87	9	33
	8	116	14	487
	10	145	18	646
NTS J 20 PK	6	87	13	452
	8	116	17	604
	10	145	21	752
NTS J 30	6	87	21	752
	8	116	28	971
	10	145	35	1236
NTS J 40	6	87	19	666
	8	116	28	975
	10	145	37	1292
NTS J 60	6	87	43	1504
	8	116	55	1942
	10	145	70	2472
NTS J 80	6	87	38	1332
	8	116	55	1949
	10	145	73	2585

I dati sopra riportati sono puramente indicativi, suscettibili di variazioni in base alle oscillazioni della pressione aria ingresso e alla temperatura di processo e ambiente.

The above data is approximate and can vary according to fluctuations of inlet air pressure and working and ambient temperature.

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Nitrothermspray F.A.Q. Frequently Asked Questions

Q. *Do I need an air compressor to use the Nitrothermspray?*

R. Yes, of course. NITROTHERMSPRAY does not radically change the existing plant and can be easily integrated. The traditional paint carrier or compressed air is replaced by a nitrogen enriched flow (nitrogen concentration up to 99,5%). Compressed air is needed to supply the nitrogen generator.

Q. *How much nitrogen does the NITROTHERMSPRAY produce?*

R. It depends how many painting stations there are. For example, if one spray gun consumes 400 litres per minute, the right generator is a NITROTHERMSPRAY J20 (with an optional 500 litre built-in receiver tank) which produces 20 m³/h of nitrogen.

Q. *What maintenance does the NITROTHERMSPRAY require?*

R. As stated in the manual the NITROTHERMSPRAY does not need any particular kind of maintenance apart from the inlet air filters which need to be changed about once a year or when the hands of the gauge reach the red area.

Q. *How much does it cost to produce nitrogen using the NITROTHERMSPRAY?*

R. It costs slightly more than that of compressed air.

Q. *Does nitrogen alter the chemical formulae in the paint?*

R. Absolutely not, nitrogen is an inert, colourless, odourless gas. Furthermore it is already present in compressed air up to 78%.

Q. *Could I obtain a better transfer efficiency of the paint by just heating it?*

R. No, the benefits are not the same because at the nozzle the compressed air expands and becomes a cold, damp fluid carrier, cancelling the preheating effect of the paint and only temporarily reducing its viscosity before use.

Q. *Instead of using the thermal tube, can I heat compressed air and have the same benefits as those of the heated nitrogen?*

R. The quantity of water vapour present in the air is directly proportional to its temperature: i.e. at 10°C there are about 10 g/m³ of moisture, at 50°C there are 100 g/m³. By heating the air there is an increased quantity of water vapour in the paint fluid carrier, whereas nitrogen being anhydrous can be heated without problems.

Q. *If I dry and filter the compressed air do I have the same benefits as those of the NITROTHERMSPRAY?*

R. No, compressed air filtered and dried has a dew point of about +5°C while nitrogen condensates at – 60°C. Therefore, regardless of the atmospheric conditions, with NITROTHERMSPRAY a clean and dry fluid carrier is used. Moreover compressed air is a mixture of gasses while NITROTHERMSPRAY delivers a stable and inert fluid: nitrogen.

Q. *Do I need more nitrogen generators if I have more than one painting stations?*

R. No, to know how much nitrogen is needed you calculate how many litres per minute of carrier fluid is used during the painting process. Once we have this information, we know the size of the generator that you need. For example, if there are two painting stations the plant can be made up of one NITROTHERMSPRAY J30 nitrogen generator (with an optional 500 litre built-in receiver tank) and one Top Spray module.

Q. *I do not want to buy generators from Eurosider or from its distributors. Can I use other means to generate nitrogen?*

R. No, Eurosider apart from having patented NITROTHERMSPRAY, TOP SPRAY and the heated hose, also holds the patent of the method of paint spraying with heated ionized nitrogen. It is therefore impossible to paint using nitrogen in cylinders (it would be too expensive anyway), PSA generators, cryogenic systems or other membrane nitrogen generators.

Q. *In conclusion, what are the concrete advantages of NITROTHERMSPRAY?*

R. In brief the advantages can be listed as follows:

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